Course Syllabus





Welcome to CSC111! Please read through this course syllabus carefully to familiarize yourself with the content, logistics, and policies of this course. All questions should be directed to csc111-2022-01@cs.toronto.edu.

Course description and learning outcomes

A continuation of CSC110Y1 to extend principles of programming and mathematical analysis to further topics in computer science. Topics include: object-oriented programming (design principles, encapsulation, composition and inheritance); binary representation of numbers; recursion and mathematical induction; abstract data types and data structures (stacks, queues, linked lists, trees, graphs); the limitations of computation.

This course is restricted to students in the first year Computer Science admission stream, and is only offered in the Winter term. Other students planning to pursue studies in computer science should enroll in CSC108H1, CSC148H1, and CSC165H1/CSC240H1.

In this course, you will learn:

- Analyze a problem domain written in English; represent key definitions and properties using mathematical logic; and design, implement, and evaluate computational solutions to solve a problem.
- 2. Understand and write programs using standard features of the Python programming language.
- 3. Understand and use a variety of professional software development skills, including: programming using an Integrated Development Environment (IDE); writing clear documentation; debugging and testing programs; reading technical documentation and source code to learn how to use an external program or library.
- 4. Analyze the running time of a program.
- 5. Define and implement common abstract data types and algorithms.
- 6. Create a mathematical proof or disproof of a given statement in new and familiar domains, choosing from among different proof techniques to use. Apply proofs of mathematical statements to justify the correctness of algorithms.

Logistics

The instructor and course coordinator is Mario Badr. For course-related questions, please do not email your instructor directly; instead, see the section below titled: Contact: website, email, discussion board.

In person vs. online: This is an in person course. However, due to the ongoing pandemic, the course (i.e., lectures, tutorials, etc.) will be delivered online until January 31st. If university or provincial policies further impact the in-person delivery of the course, additional announcements will be made.

Attending lectures

The first lecture is Monday January 10th. All lectures start at 10 minutes past the hour. Our lectures will alternate between the instructor presenting new concepts and you actively engaging with course material through problem-solving exercises, which will be available online.

Lecture schedule.

Lectures	LEC0101	LEC0201
Meeting Time	Mon 10:00 am - 12:00 pm Wed 10:00 am - 11:00 am	Mon 3:00 pm - 5:00 pm Wed 3:00 pm - 4:00 pm
In Person Location	Mon: MS 2158 Wed: MS 3153	Mon: OI G162 Wed: OI G162
Online Location (until January 31st)	(https://utoronto.zoom.us/j/88337277803) https://utoronto.zoom.us/j/88337277803	

Attending tutorials

At the end of each week, you will participate in a two-hour tutorial. **The first tutorial is Friday, January 14th**. All tutorials start 10 minutes past the hour. Tutorials are an opportunity to reinforce and extend your learning from lecture that week. We have designed the tutorials to not simply be a repeat of work you did in lecture, but to give you different kinds of opportunities to problem-solve and practice what you've learned. You can access information about your tutorial's logistics here.

We have three main goals for our tutorials:

- 1. Help you practice and review material covered in lectures and course readings.
- Give you opportunities to apply and extend your computer science knowledge and skills to new domains and problems.
- 3. Foster a sense of community and build individual relationships among every one of you.

In each tutorial, your TA will start with a brief introduction, and then get you started working

independently or in small groups on the tutorial exercises. You'll be able to work with each other and ask your TA questions as you go through the exercises, and your TA will also occasionally bring everyone back together to discuss how the exercises are going, address common questions/difficulties, and ask for your feedback about how the tutorial is going.

While attendance in tutorials is not graded, all of the material covered in tutorials is mandatory, and attendance is strongly recommended. Tutorials are a way for you to meet and work with other students in the course, and to receive individual attention from a member of the course staff in a more intimate setting than lecture. Attending tutorials regularly is a way to make sure you keep on top of your learning in this course.

Note: we often try to give extra problems that we expect to take longer than the full tutorial time. Don't feel discouraged if you don't finish every part of every tutorial, as we give additional work to give you more practice to review and learn the material.

Attending office hours

Each week, Mario will hold office hours to provide an informal setting for students to drop in and ask questions or just chat about the course material. The first office hour will be held on **Wednesday**, **January 12th**.

Office hours schedule.

Time	Online Location (until January 31st)	In Person Location
Wednesdays, 1:00 pm to 2:30 pm	https://utoronto.zoom.us/j/88337277803 (https://utoronto.zoom.us/j/88337277803)	TBD
Thursdays, 2:30 pm to 4:00 pm	Meeting ID: 883 3727 7803 Passcode: 109539	TBD

Our office hours will be *student-driven*, meaning the instructor won't have any material prepared, and instead the discussion will be based on whatever questions you'd like to ask. Office hours will also be *group-based*, meaning we stick to questions that aren't specific to any particular student, but rather to course concepts and answers that every student can benefit from.

Contact: website, email, discussion board

All course announcements will be made on Quercus, and you are responsible for reading all announcements made in this course.

Please post all of your questions about the course material and assignments on Piazza so that everyone can benefit from your questions. We will monitor the discussion board regularly, but please

answer questions from other students—helping someone else learn is one of the most effective ways of truly mastering a subject.

For *personal questions*, please email **csc111-2022-01@cs.toronto.edu** from your University of Toronto email address. (**Do not email your instructor directly**—we are using a separate email account to ensure that every email is properly recorded and answered as smoothly as possible.) Please include CSC111 in the subject line, your full name, UTORid, and student number in the body of the email. We will try to respond to emails within 3 business days. However, it may take longer, especially near due dates. If you do not hear back after a few days, please do not hesitate to send a follow-up email.

For a consultation regarding, for example, advice on time management, CS in your upper years, or other related topics, you can book a 15 minute appointment using "Consultation" here (https://outlook.office365.com/owa/calendar/CSC111H1S20221@utoronto.onmicrosoft.com/bookings/). You can book appointments no more than two weeks in advance.

Accommodations and accessibility services

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability or health consideration that may require accommodations, please feel free to approach your instructor and/or the Accessibility Services Office as soon as possible. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations. The sooner you let them and us know your needs, the quicker we can assist you in achieving your learning goals in this course. For more information on services and resources available to students, including registering for accommodations, please see the U of T Accessibility Services website: https://www.studentlife.utoronto.ca/as (https://www.studentlife.utoronto.ca/as).

Special consideration and missed work

Students experiencing illness or other emergencies that prevent them from being able to complete homework on time, or write the midterm, can apply to the Course Coordinator for special consideration. You will be required to affirm that you are abiding by the Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/Assets (Governing+Council+Digital+Assets/Policies/PDF/ppjun011995.pdf), in particular, to be aware that it is an offence:

to engage in any form of cheating, academic dishonesty or misconduct, fraud or misrepresentation not herein otherwise described, in order to obtain academic credit or other academic advantage of any kind

That is, you must be truly experiencing an emergency, and acknowledge that to falsely claim so is an

academic offence. Applying does not guarantee that you will be granted special consideration.

To apply for special consideration, complete special-consideration-form.pdf ψ (https://q.utoronto.ca/courses/249689/files/18588024/download?download_frd=1) and email it to the course account (csc111-2022-01@cs.toronto.edu) from your UofT email address. You should also fill out the Absence Declaration Tool on ACORN (https://acorn.utoronto.ca).

IMPORTANT: Submit your request soon as possible if you find yourself in such a situation. It is easier to resolve situations earlier rather than later. If your emergency will affect your ability to complete coursework for more than a few days, or in multiple courses, we recommend you also talk to your registrar.

Note that **this procedure does NOT apply to the final exam.** Your Registrar handles all matters related to final exams.

Academic integrity

The work you submit must be your own. It is an academic offence to copy the work of someone else. This includes their files, their words, and even their ideas. Whether you copy or let someone else copy, it is an offence. Academic offences are taken very seriously.

At the same time, we want you to benefit from working with other students. Obviously, work done with your partner is a joint effort. You are also welcome to work appropriately with students other than your partner. It is appropriate to discuss course material and technology related to assignments, and we encourage you to do so. For example, you may work through examples that help you understand course material or a new technology, or help each other configure your system to run a supporting piece of software. You may also discuss assignment requirements.

However, other than between group members, *collaboration on assessment solutions is strictly forbidden*. The most certain way to protect yourself is not to discuss solutions or the ideas behind them with students other than your partner. Certainly, you must not let others see your solutions, even in draft form. Do not post your solutions on public online platforms like GitHub, as these can be searched and used by other students. (See the "Your course work" section below for our advice about using private GitHub repositories.)

Please do not cheat. We want you to succeed and are here to help if you are having difficulty.

CSC111 Community Code of Conduct

[This section is based in part on the Community Covenant (https://community-covenant.net/) .]

All members of the course staff and all students are part of the same CSC111 community, and we share the common goal of creating a safe and positive learning environment for every student. Each

of us is responsible for creating this environment, and must follow the guidelines below when participating in this course.

- 1. Use welcoming and inclusive language. Show empathy towards other community members.
 - Call people by their preferred names and pronouns. Do not make offensive comments about an individual or group (e.g., gender, sexual orientation, disability and mental illness, or race). Avoid humour or sarcastic remarks based on such comments or stereotypes.
- Be respectful of differing viewpoints and experiences. Gracefully give and accept constructive criticism.

Look for (and reflect on) ideas and perspectives that are different than your own. Make a genuine effort to thank those who share them. It is natural to disagree with something a member of our community has written, and you are permitted to voice your disagreement. However, when doing so take the following into consideration: try to understand where the other person might be coming from; do not assume the other person's motives or draw inferences from their identity; be polite in your response and state where you agree.

3. Be professional in your conversations.

While conversations about topics unrelated to CSC111 or even the University of Toronto are certainly permitted (and encouraged), keep these conversations professional as you would in the workplace. Do not share sexual or violent content and avoid profanity.

4. Respect the personal boundaries of each community member.

While we encourage you to make use of this course's online platforms to meet each other to form academic and social connections, no one is obligated to do so. Everyone will have different boundaries and comfort levels that may change over time and depending on the situation. When in doubt, ask. If someone has asked you to respect one of their boundaries (e.g., not to contact them), with or without a reason, please respect their wishes. Do not reveal any person's personal information or private communications to a third person (or publicly) without receiving their explicit consent.

If you experience a violation of this code of conduct in a CSC111 space, or witness such a violation (even if it is not directed at you), or have any other concerns, please contact the course staff at csc111-2022-01@cs.toronto.edu. We will respond to you in a timely manner and everything you say will be confidential.

Assessments

The table below summarizes the assessments in the course. Additional information on each assessment type can be found below the table.

A summary of assessments and their weights.

Assessment	Due Date/Date Held (Eastern Time)	Weight	Platform
Weekly Prepare Quizzes	Mondays before 9am	9% (Best 9 of 10)	Quercus
Weekly Prepare Exercises	Mondays before 9am	8% (Best 7 of 8)	MarkUs
Assignment 1	Thursday, February 3rd before 9 am	10%	MarkUs
Midterm	Monday, February 28th	20%	In Person
Assignment 2	Thursday, March 3rd before 9 am	10%	MarkUs
Assignment 3	Thursday, March 24th before 9 am	10%	MarkUs
CS and Society Modules	 Pre-module survey due Wednesday, March 9th before 9 am Module 1 written exercise due Monday, March 14th by 9am Module 2 written exercise due Monday, April 4th by 9 am Post-module survey due Monday, April 4th by 9 am 	Total: 3% • Surveys: 0.5% each • Written Exercises: 1% each	ТВА
Final Exam	To be announced	30%	In Person

Weekly Preparation

Most weeks, you complete a preparation exercise that introduces new material before lecture. These must be completed before Mondays at 9am Eastern Time. Each prep consists of a short reading from the Course Notes (https://www.teach.cs.toronto.edu/~csc110y/fall/notes), a series of short-answer comprehension questions hosted as a Quercus quiz, and then some programming exercises hosted on MarkUs. There will not be a prep during the first week of classes. The first graded prep will be the "Week 2 Prep".

General prep instructions:

- You must submit all prep work individually. However, you may freely discuss all of your answers with your classmates, and with TAs and instructors on the course discussion board and office hours.
- 2. The prep deadline is **firm**, and no late submissions are accepted.
- 3. For Quercus comprehension quizzes, you can make as many attempts as you wish. Your score is

- shown after each attempt. If you submit multiple attempts, only your best score is used.
- 4. For the programming exercises, you may submit the required file(s) as many times as you wish on MarkUs. However, your submission is only graded after the deadline has passed, and only your most recent submission before the deadline will be graded.

Assignments

You will complete three *assignments* in CSC111, which are designed to synthesize multiple course concepts and give you opportunities to apply what you've learned to new domains.

Each assignment will consist of a few different parts, spanning both written problems meant to assess your understanding of course concepts and ability to explain them, and programming exercises meant to assess your ability to apply the programming concepts you've learned to novel and large domains.

You use MarkUs to submit your work before the due date. It is your responsibility to:

- Submit all of your work (which will be in multiple files) before the deadline.
- Ensure that the files you intended to upload are the ones on MarkUs. To do this, you can preview/download the files you have uploaded from MarkUs.
- Ensure that Python files can be run without error.

You can submit files multiple times on MarkUs; your most recent files (submitted before the due date) are graded. Please note that you should not change the file names of any of the starter files for an assignment, as these will be the exact file names you should submit to MarkUs (There may be additional files required for a specific assignment).

Working with a partner

You may complete each assignment individually or with a partner.

If you choose to work with a partner, they may be from any section of this course, and you can work with different partners for different assignments. You will need to form a group on MarkUs before submitting your work. Both you and your partner need to login to MarkUs to form the group **before the due date**, but only one person needs to submit your work.

See https://github.com/MarkUsProject/Markus/wiki/Student-Guide#how-to-form-groups) for instructions on forming a group.

Note:

- Only one team member should create the group, and invite your partner(s) by using their UTORids.
- Once you have declared a group on MarkUs, you may not dissolve your group without the

permission of your instructor.

Late Assignment Submissions

Assignments have a late penalty policy, detailed on MarkUs. Note that the late penalty applies to the *entire* submission.

CS and Society Modules

The **CS** and **Society modules** is a project led by computer science professors Diane Horton, Sheila McIlraith, and David Liu. This term, we are devoting two lecture hours (March 8-9 and March 29-30) to exploring and analysing the impact of computer science on humans and society. There will be four short tasks to earn the 3% for completing these modules, and we will post more information about these modules later this semester.

Tests and Exams

The Midterm and Final Exam are timed, supervised assessments that evaluate your fluency of the material. The Midterm is completed during each section's corresponding lecture time. However, the midterm does not take place in the same room as lecture. The room will be announced closer to the date.

The Final Exam is scheduled by the Faculty of Arts and Science during the final assessment period. When it has been scheduled we will announce the date, time, and room of the final exam.

Remark requests

Remark requests are only accepted on specific assessments. If you believe there was an error in the marking of an Assignment or Term Test, you may request that it be remarked through MarkUs. Only remark requests submitted within the time frame indicated on MarkUs will be accepted - this is typically within **one week** of when the item was returned.

Please note that when we receive a remark request, we regrade the entire submission, not just a specific question. Your mark may go up or down as a result of the remark.

Copyright notice

Course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Copyright Act, RSC 1985, c C-42. These materials are made available to you for your personal, and cannot be shared outside of the class or published (made publicly available) in any way. Posting course materials or any recordings you may make to other websites without the express permission of the instructor will constitute copyright infringement.

This notice applies to all course materials, including (but not limited to): course notes, lecture slides,

lecture recordings, lecture and tutorial handouts, sample solutions, and assessment handouts, starter code, and solutions.

Lecture and tutorial recordings

You may not make your own recordings of video, audio, or text chat, of lectures or tutorials, whether in person or online. Course staff may upload lecture recordings on the course website for your use (but you may not distribute these).

Your course work

Work that you complete for CSC111 (including exercises, assignments, and tests) may not be shared with other students or published. This policy is to both protect the intellectual property of course staff (including, for example, the design and starter files for assignments), and to protect you from committing acts of academic dishonesty. For more information on this topic, see the Department of Computer Science website (https://web.cs.toronto.edu/undergraduate/portfolio-advice).

<u>GitHub (https://www.github.com)</u> is a popular option for computer science students and professionals to both collaborate in teams and publish their work online, including to develop a portfolio for potential employers. As we said in the *Academic Integrity* section, you should not put your work publicly on GitHub. However, you may use GitHub's **private repositories** to store your own work, and work with a group on course assignments. (See <u>GitHub's instructions for creating a repository</u> (https://docs.github.com/en/github/getting-started-with-github/create-a-repo) and select "Private" in Step 4.)

Course Summary:

Date	Details	Due
Mon Jan 17, 2022	W02 Prepare Exercise (https://q.utoronto.ca/courses/249689 /assignments/765401)	due by 9am
WOT 3411 17, 2022	W02 Prepare Quiz (https://q.utoronto.ca/courses/249689 /assignments/764749)	due by 9am
Mon Jan 24, 2022	W03 Prepare Exercise (https://q.utoronto.ca/courses/249689 /assignments/765402)	due by 9am
	W03 Prepare Quiz (https://q.utoronto.ca/courses/249689	due by 9am

Date	Details	Due
	/assignments/764850)	
	₩04 Prepare Exercise	
	(https://q.utoronto.ca/courses/249689	due by 9am
	/assignments/765403)	•
Mon Jan 31, 2022		
	₩04 Prepare Quiz	du - hu 0
	(https://q.utoronto.ca/courses/249689	due by 9am
	<u>/assignments/764851)</u>	
	Assignment 1	
Thu Feb 3, 2022	(https://q.utoronto.ca/courses/249689	due by 9am
	/assignments/764952)	
	₩05 Prepare Exercise	
	(https://q.utoronto.ca/courses/249689	due by 9am
	/assignments/765404)	ado by ban
Mon Feb 7, 2022		
	₩05 Prepare Quiz	
	(https://q.utoronto.ca/courses/249689	due by 9an
	/assignments/764852)	
	Midterm (https://q.utoronto.ca	
	/courses/249689/assignments	dua by 12pp
	<u>/765440</u>)	due by 12pn
M 5 1 44 0000	(CSC111H1-S-LEC0101-20221)	
Mon Feb 14, 2022	Midterm (https://q.utoronto.ca	
	/courses/249689/assignments	
	/765440)	due by 5pn
	(CSC111H1-S-LEC0201-20221)	
	₩06 Prepare Exercise	
	(https://q.utoronto.ca/courses/249689	due by 9an
	/ <u>assignments/765405</u>)	,
Ned Feb 16, 2022		
, -	₩06 Prepare Quiz	
	(https://q.utoronto.ca/courses/249689	due by 9an
	/assignments/764853)	·
	₩07 Prepare Quiz	
Mon Feb 28, 2022	(https://q.utoronto.ca/courses/249689	due by 9an
,	/assignments/764854)	ado by our

Date	Details	Due
Thu Mar 3, 2022	Assignment 2 (https://q.utoronto.ca/courses/249689 /assignments/764955)	due by 9am
Mon Mar 7, 2022	W08 Prepare Exercise (https://q.utoronto.ca/courses/249689 /assignments/765406)	due by 9am
	W08 Prepare Quiz (https://q.utoronto.ca/courses/249689/assignments/764855)	due by 9am
Wed Mar 9, 2022	CS & Society: Pre-Survey (https://q.utoronto.ca/courses/249689 /assignments/765445)	due by 9am
Mon Mar 14, 2022	CS & Society: Homework 1 (https://q.utoronto.ca/courses/249689 /assignments/765447)	due by 9am
	W09 Prepare Exercise (https://q.utoronto.ca/courses/249689 /assignments/765407)	due by 9am
	W09 Prepare Quiz (https://q.utoronto.ca/courses/249689 /assignments/764856)	due by 9am
Mon Mar 21, 2022	W10 Prepare Exercise (https://q.utoronto.ca/courses/249689 /assignments/765408)	due by 9am
	W10 Prepare Quiz (https://q.utoronto.ca/courses/249689 /assignments/764857)	due by 9am
Thu Mar 24, 2022	Assignment 3 (https://q.utoronto.ca/courses/249689 /assignments/764956)	due by 9am

Date	Details	Due
Mon Mar 28, 2022	W11 Prepare Quiz (https://q.utoronto.ca/courses/249689 /assignments/764858)	due by 9am
	CS & Society: Homework 2 (https://q.utoronto.ca/courses/249689 /assignments/765448)	due by 9am
Mon Apr 4, 2022	CS & Society: Post-Survey (https://q.utoronto.ca/courses/249689 /assignments/765446)	due by 9am
	W01 Timed Practice Quiz (https://q.utoronto.ca/courses/249689 /assignments/799851)	
	W02 Timed Practice Quiz (https://q.utoronto.ca/courses/249689 /assignments/801981)	
	W03 Timed Practice Quiz (https://q.utoronto.ca/courses/249689 /assignments/806299)	